



Dart Aerospace Ltd.
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C45-HC Job Sheet 191754



Part No: C45-HC

Part Name: C-Series Remote Hook 4,500 lbs
Lift Capacity With Cage



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 3/7/19

Job Tracking No:

Due Date: 5/6/19

Created By: Marie Lajeunesse

Type: SOLD

Description: order 13882

Note: IPP REV:A 18.02.16 NEW ISSUE DD VERF:JFS

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	External Load - 1	0 pcs	5/6/19	5/6/19	0.00	0.00	External Load - 1		AP 2019/05/16
							External Load - 2		
							External Load - 3		
120	QC 5	0 pcs	5/6/19	5/6/19	0.00	0.00	QC 5 - 10		
							QC 5 - 12		
							QC 5 - 17		
							QC 5 - 18		
							QC 5 - 19		
							QC 5 - 22		
							QC 5 - 24		
							QC 5 - 3		
							QC 5 - 42		
							QC 5 - 43		
							QC 5 - 49		
							QC 5 - 51		
							QC 5 - 58		
							QC 5 - 68		
							QC 5 - 9		
							QC 5 - 50		
							QC 5 - 30		
							QC 5 - 40		
							DC - 1 - B4B		
							DC - 2 - B4B		
130	DC - 1 - B4B	0 pcs	5/6/19	5/6/19	0.00	0.00	DC - 1 - B4B		MAY 15 2019
							DC - 2 - B4B		
140	Packaging 3-1 - Stock - B4B	0 pcs	5/6/19	5/6/19	0.00	0.00	Packaging 3 - 1 - B4B		
							Packaging 3 - 2 - B4B		
							Packaging 3 - 3 - B4B		
							Packaging 3 - 4 - B4B		
							Packaging 3 - 5 - B4B		
							Packaging 3 - 6 - B4B		
							Packaging 3 - 7 - B4B		



Container No: S181921



Part: C45 - HC

Job No: 191754

Serial No/Batch: S181921

Revision:

Inspector:

Exp Date:

Instructions:

Date: 05/16/19

				Packaging 3 - 8 - B4B	
				Packaging 3 - 9 - B4B	
				Packaging 3 - 10 - B4B	
				Packaging 3 - 11 - B4B	
				Packaging 3 - 12 - B4B	
				Packaging 3 - 13 - B4B	
				Packaging 3 - 14 - B4B	
				Packaging 3 - 15 - B4B	
				Packaging 3 - 16 - B4B	
				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
				Packaging 3 - 36 - B4B	
160	QC 21 - FG	0 pcs	5/6/19	0.00 0.00	QC 21 - FG - 21
					QC 21 - FG - 70
					QC 21 - FG - 53

DAS
21
9-89

MAY 15 2019

Part Op 100 - Assemble the hook into the cage using the hardware called out on the C45-C drawing and torque fasteners to 290-
Descriptions: 410 in. lbs.

120 - (QC5- Inspect part completeness to step on W/O)

130 - (Document Control) Photocopy blue file and create labels as per O&OPM-C45

140 - (Identify as per dwg & Stock Location: _____)

160 - (QC21- Final Inspection - Work Order Release)

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
C45	C-Series Remote Hook 4,500 lbs Lift Capacity	0 pcs (1 ea)	100-External Load - 1	5167 649
C45-C	Single Cage Assembly (C45 & C60 Hook)	0 pcs (1 ea)	100-External Load - 1	5181 890
SAFT-E25				M12B 063

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-External Load - 1	C45	0	0	0
	C45-C	0	0	0

Part Specifications

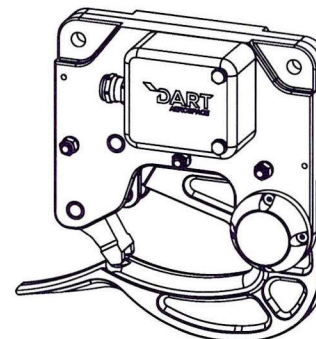
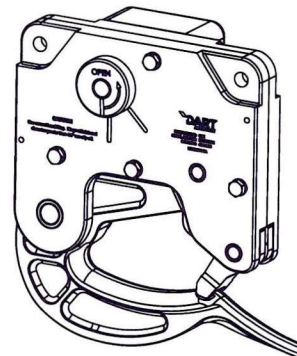
Specifications could not be found.

Plex 3/7/19 1:27 PM Dart.lajeunesse.marie

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ASSY QTY	ASSY QTY	B/O	Part #	UNIT QTY	Description	Material	B/O INFORMATION OR SPECIFICATIONS	PG.
			C45-1-1	1	MANUAL KNOB RELEASE	6061		2
			C45-2-1	1	SIDE PLATE	7075-T6		2
		B/O	C45-3-1	2	RADIAL BEARING		(KAMAN #1606 2RS)	3
			C45-3-2	1	LATCH ROLLER PIN	O-1		3
		B/O	C45-3-2-1	2	SNAP RING	STEEL	Ø3/8 (KAMAN 1400-0037)	3
			C45-3-3	1	LATCH ROLLER	4140/4142		3
			C45-3-4	2	LINK PIN	O-1		3
		B/O	C45-3-4-1	4	RETAINING RING	BERYLLIUM COPPER	3/16 SHAFT (MCMaster-CARR #98410A110)	3
		B/O	C45-3-5	2	SPACER	TEFLON	(MCMaster-CARR #95606A180)	3
			C45-3-6	1	LATCH	17-4 S.S.		3
			C45-3-7	1	LINK	O-1		3
			C45-3-8A	1	ACTUATOR SHAFT BUSHING	AL BRONZE 630		3
			C45-3-8B	1	ACTUATOR SHAFT BUSHING SOLENOID SIDE	AL BRONZE 630		3
		B/O	C45-3-9	1	LEVER SPRING	303 S.S.		3
			C45-3-10	1	LATCH SHAFT	17-4 S.S.		3
			C45-3-11	1	ACTUATOR	17-4 S.S.		3
		B/O	C45-3-12	1	DU BEARING		(KAMAN 06DU06)	3
			C45-4-1	2	TRUNNION BUSHING	AL-BRONZE 630		2
			C45-4-5	1	LOAD BEAM SPACER	4140/4142 Q&T		2
		B/O	C45-5-1	1	LEVER STOP PIN	STEEL	1/4 X 1-3/8 (MCMaster-CARR #98381A545)	2
			C45-5-2	1	LEVER STOP	304 S.S.		2
			C45-7-1	1	LOAD BEAM BUMPER	POLYURETHANE		2
			C45-7-2	2	LOCK BUMPER	PLOYURETHANE		2
			C45-8-1-2	2	SOLENOID NUT	304 S.S.		2
			C45-8-2	1	SOLENOID ASSY		(REF: H-2553-020)	2
			C45-8-4	1	SOLENOID COVER GASKET	BLENDED RUBBER		2
			C45-8-5	1	SOLENOID COVER	6061		2
			C45-9-1	1	CLOCK SPRING COVER	6061		2
			C45-4-4A	1	C45 LOAD BEAM ASSY.			2
		B/O	C45-9-2	1	CLOCK SPRING	303 S.S.	.03 X .75 X 1.5 DENDOFF SPRING	2
		B/O	C45-10-1	1	SPRING PIN	S.S.	1/4 X 1.0 (MCMaster-CARR #92373A183)	2
			C45-10-2	1	LOCK SPRING C45 HOOK	302 S.S.		3
			C45-11-1	1	SIDE PLATE SOLENOID	7075-T6		2
		B/O	C45-11-2	2	LOCATING PIN	S.S.	Ø3/16 X 1 (MCMaster-CARR #90145A510)	2
			C45-12-1	2	LOCK BUSHING	4140/4142		3
			C45-12-2	1	LOCK SHAFT	4140/4142		3
			C45-12-3	1	LOCK	4140/4142		3
			C45-12-4	1	LOCK ROLLER	4140/4142		3
			C45-12-5	1	LOCK ROLLER PIN	4140/4142		3
		B/O	C45-12-6	2	RETAINING RING	STEEL	(KAMAN #N1400-0050)	3
			C45-13-1	2	KEEPER BUSHING	4140/4142		3
		B/O	C45-13-2	2	SPACER	NYLON	(MCMaster-CARR #95606A210)	3
			C45-13-3	1	KEEPER SHAFT	4140/4142		3
			C45-13-4	1	KEEPER	4140/4142		3
		B/O	C45-13-5	1	KEEPER SPRING	303 S.S.	CHAMBERLAIN SPRING	3
			600.1309	1	LABEL A	ALUMINUM		N/S
			600.1309-A	1	LABEL A	ALUMINUM		N/S
		B/O	600.1312	1	CAUTION STICKER A			N/S
		B/O	C2-14-2	2	LABEL RIVETS A	18-8 S.S.	NO 4 (MCMaster-CARR #91654A106)	N/S
		B/O	188-FPS-1/4 20-3/8	2	SET SCREW	S.S.	1/4-20 (MCMaster-CARR #92313A535)	2
		B/O	188-FSCS-1032-5/8	4	SCREW	S.S.	10-32 X 5/8 FSHCS (MCMaster-CARR #92210A303)	2
		B/O	AN4-23A	2	BOLT	STEEL	1/4-28 X 2.41	2
		B/O	ANS-21A	4	BOLT	STEEL	5/16-24 X 2.22	2
		B/O	MS21044N5	4	LOCK NUT	S.S.	5/16	2
		B/O	AN960-416	3	WASHER	STEEL	1/4	2
		B/O	AN960-516	8	WASHER	STEEL	Ø5/16	2
		B/O	MS27039-4-08	1	BOLT	STEEL	1/4-28 X .531	2
		B/O	EL314-SJTOW 3/14	1	3 WIRE		(TEXCAN 314-SJTOW 3/14)	2
		B/O	32448	2	16-14 AWG KNIFE CONNECTOR		(ALLIED ELECTRONICS 32448)	2
		B/O	C10-41	1	STRAIN RELIEF CONNECTOR	BRASS	1/2 TRADE SIZE (MCMaster-CARR #6907K14)	2
		B/O	EL-PLUG-M	1	MALE PLUG	PE High Density	(MCMaster-CARR #7216K5)	2
		B/O		1	HEAT SHRINK TUBE	RUBBER	(MCMaster-CARR #2595K22)	N/S

REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1	15-0018	UPDATED TO NEW DRAFTING STANDARDS. CHD P/NS TO REFLECT AN & MS NUMBERS. ADDED REBUILD AND CUSTOMER REBUILD NOTES.	1/20/2015	DPD	JAG
2	15-0230	C45-5-1 CHD B/O WAS Ø1/4 X 1-1/2 #98381A546 IS Ø1/4 X 1-3/8 #98381A545. C45-1-2 REPLACED W/ 188-FPS-1/4 20-3/8. C45-9-1-1 REPLACED W/ 188-FSCS-1032-5/8. MS27039-4-10 REPLACED W/ MS27039-4-08. CONO GRIP REPLACED W/ C10-41. 32448 ADDED TO BOM QTY 2. ADDED ENGRAVING NOTES & DETAILS.	9/10/2015	DPD	JAG



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 191754MOS
19-03-07

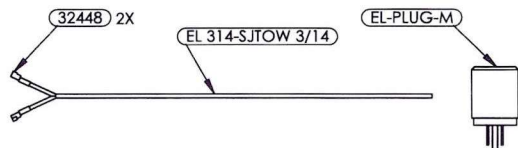
NOTES:

- FOR REBUILD ONLY.
- FOR CUSTOMER REBUILD ONLY.

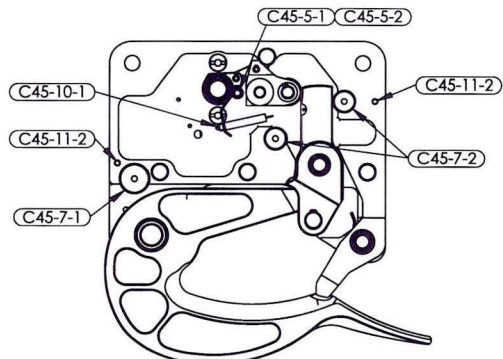
DART AEROSPACE	
TITLE C45-HOOK	
DWG NO. C45	REV 2
MAY'L UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES XX ± .005 FRACTIONS ± 1/8 XX ± .01 ANGLES ± 5° X ± 1 1. BREAK ALL SHARP EDGES .015 x 45° OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
DRAWN BY: <i>D. Weil</i>	
APPROVED <i>D. Weil</i>	
TREAT FINISH SPEC USED ON MODEL	
SCALE 1:4	DATE SHEET 1 OF 3

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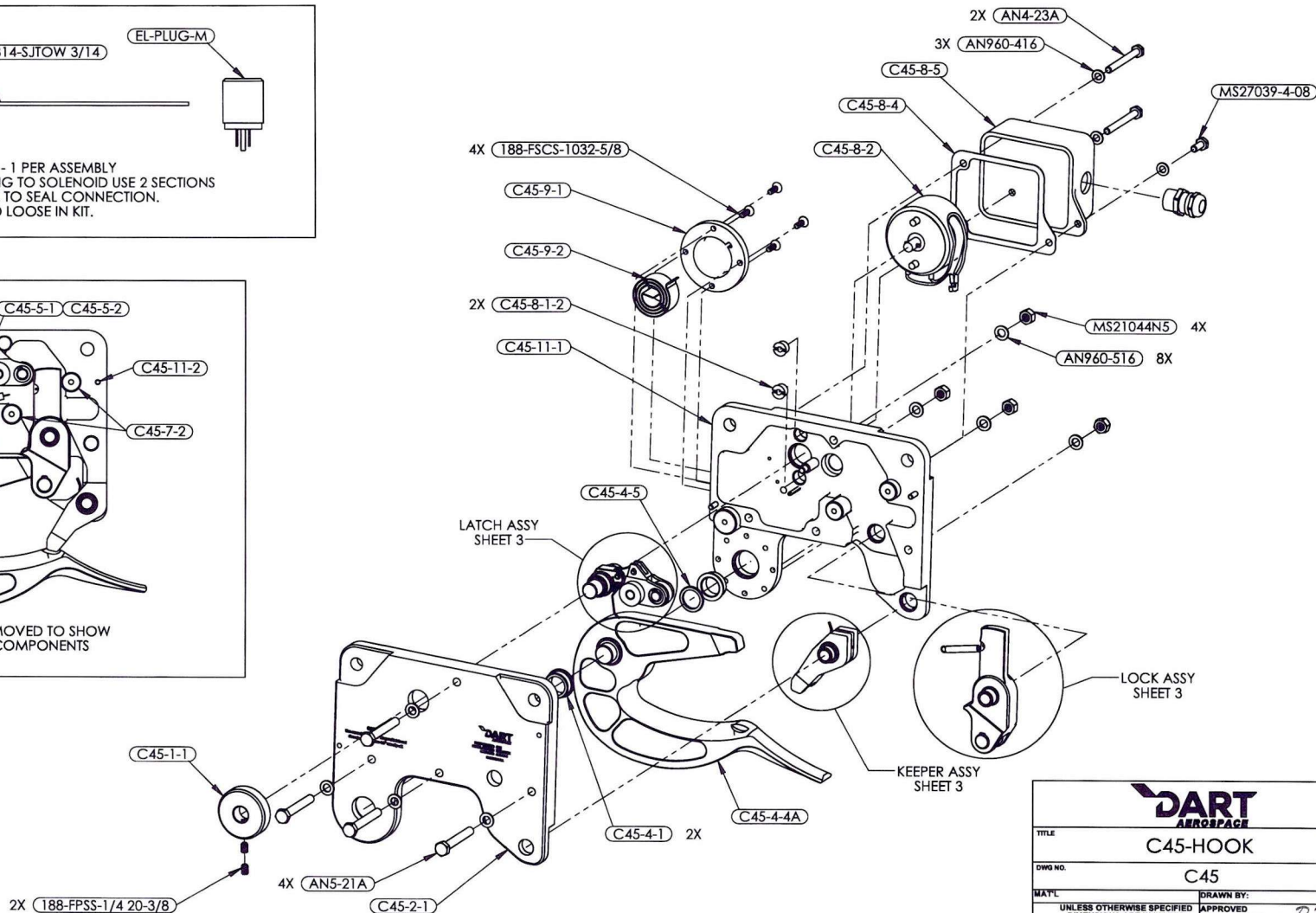
REVISONS				DATE	INITIAL	APPROVED
REV	ECR	DESCRIPTION				



WIRE ASSEMBLY - 1 PER ASSEMBLY
WHEN INSTALLING TO SOLENOID USE 2 SECTIONS
OF HEAT SHRINK TO SEAL CONNECTION.
PLUG INCLUDED LOOSE IN KIT.



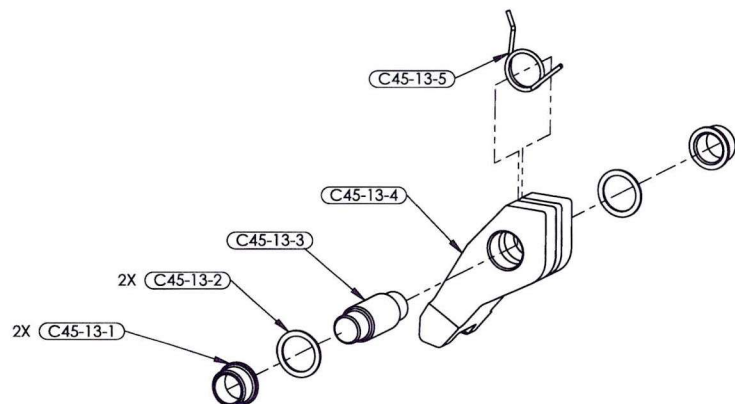
SIDE PLATE REMOVED TO SHOW
INTERNAL COMPONENTS



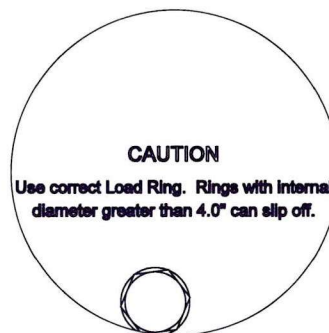
		TITLE	
		C45-HOOK	
DWG NO.		C45	REV 2
MAT'L	DRAWN BY:		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		APPROVED <i>D. Weil</i>	
.XXX ± .005	FRACTIONS ± 1/8	TREAT	
.XX ± .01	ANGLES ± .5°	FINISH	
.X ± .1		SPEC	
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R		USED ON MODEL	
2. DIMENSIONAL LIMITS APPLY AFTER PLATING			
SCALE 1:4	DATE	SHEET 2 OF 3	

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REVISIONS				
REV	ECR	DESCRIPTION	DATE	INITIAL
2	15-0230	ADDED ENGRAVING NOTES & DETAILS.	9/10/2015	DPD
			APPROVED	JAG



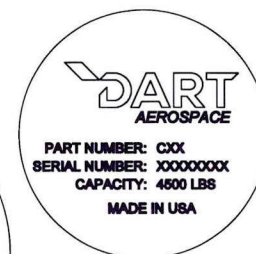
KEEPER ASSY
SCALE 1:2



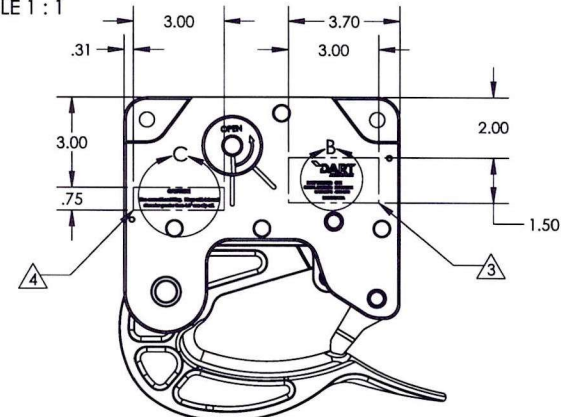
CAUTION

Use correct Load Ring. Rings with internal diameter greater than 4.0" can slip off.

DETAIL C
SCALE 1:1



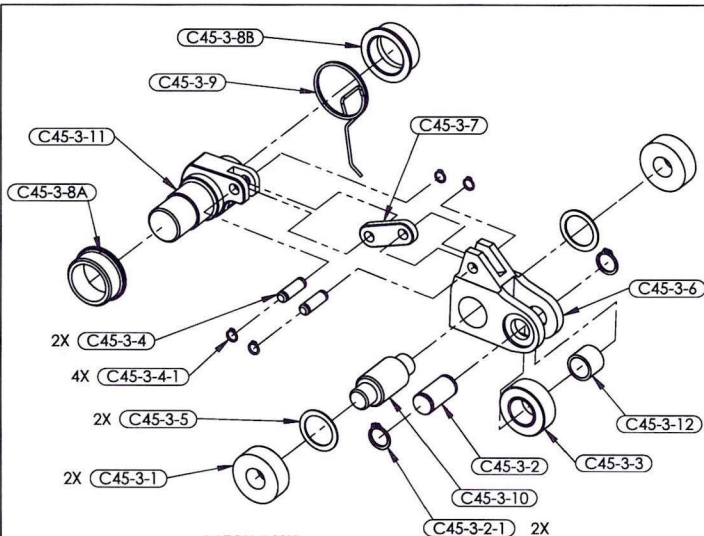
DETAIL B
SCALE 1:1



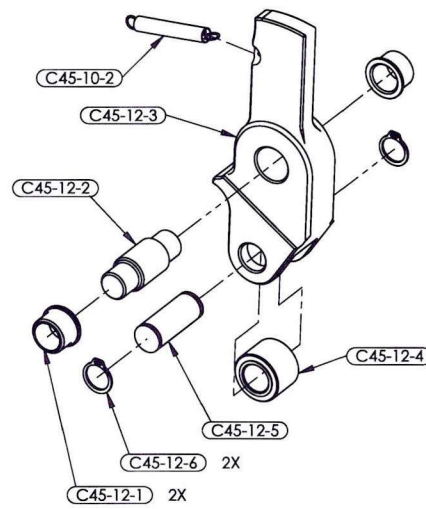
NOTES:

- 3 LASER ENGRAVE DART LOGO, P/N, S/N, "MADE IN USA," WITHIN BOUNDARY.
- 4 LASER ENGRAVE CAUTION NOTE, WITHIN BOUNDARY.

DART AEROSPACE	
TITLE C45-HOOK	
DWG NO. C45	REV 2
DRAWN BY: <i>D. Weil</i>	
APPROVED <i>D. Weil</i>	
DIMENSIONS ARE IN INCHES	
.XXX ± .005	FRACTIONS ± 1/8"
.XX ± .01	ANGLES ± .5°
X ± .1	
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE 1:4	DATE SHEET 3 OF 3



LATCH ASSY
SCALE 1:2



LOCK ASSY
SCALE 1:2

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date : _____	Sequence #: _____	QTY Affected : _____		MRB (QS1042) Completed By Lead hand / Supervisor QC / QA Coordinator	
Description Work Order Deviation		Disposition			
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
		Other/Details:			